



July/August 2015

Xplor



POND MARVELS

WHY STAY DRY WHEN THERE ARE COOL CRITTERS TO SPY?



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Some of Missouri's most interesting creatures perform marvelous feats at the water's edge.

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Animals use their tails for some to-tail-ly amazing things.

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A close-up photograph of a person's hand holding a small, brown praying mantis. The mantis is perched on the person's index finger. The background is a blurred green forest. A person wearing a purple shirt is partially visible on the right side of the frame.

A praying mantis offers a “hug”
to its large, newfound friend.

📷 by Noppadol Paothong



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ON THE COVER

Central Newt
by Noppadol Paothong

GET OUT!

DON'T MISS THE CHANCE TO DISCOVER NATURE AT THESE FUN EVENTS



Learn firearm safety at **YOUTH SHOOTING SPORTS CAMP**. Jay Henges Shooting Range in High Ridge. July 20–22, 9 a.m. to noon. Ages 11–16. Register at 636-938-9548.

1



2

Hook a trout at **KIDS FISHING DAY**. Roaring River State Park near Cassville. August 15, 7 a.m.–8 p.m.



Brown trout

3

Learn how to talk like a duck at **INTRO TO DUCK CALLING**.

August A. Busch Shooting Range and Outdoor Education Center in St. Charles. August 27, 6–8 p.m. Ages 11 and older. Register at 636-441-4554.

Wood duck



4

Learn effective wingshooting at the **DOVE HUNTING CLINIC**. Andy Dalton Shooting Range and Outdoor Education Center near Springfield. August 29, 8:30 a.m.–2 p.m. Register at 417-742-4361.



5

See live snakes, spiders, and fish at Conservation Hall at the **MISSOURI STATE FAIR**. August 13–23 in Sedalia. mostatefair.com



Eastern gartersnake

The best way to beat summer boredom is to head outdoors. Watch for these natural events around these dates.

JULY 3

Watch out for spiders building webs between trees at eye level. Carry a stick on your next hike.

JULY 21

Katydids sing loud and proud.

AUGUST 1

Watch for flocks of purple martins gathering for migration.

AUGUST 12

Perseid meteor shower peaks.

AUGUST 13

Hummingbirds begin migrating. More hummers stop to fuel up at feeders.

AUGUST 17

Snapping turtle eggs begin hatching.

AUGUST 29

Male white-tailed deer rub velvet off antlers. Watch for “rubs” on small trees.

WHAT IS IT?

DON'T KNOW?
Jump to Page 20 to find out.



- ① Slow and steady is my game.
- ② I'm tough on a totally different scale.
- ③ I snack on blackberries with my sharp beak. Yum!
- ④ I love to explore. Please don't box me in.



Into the WILD your backyard



Monarch

You can find wild things everywhere — even in your own backyard. So lace up your boots, shoulder your pack, and head into the wild.



Monarch caterpillar on butterfly milkweed

Do More

To migrate 3,000 miles from Missouri to Mexico, monarch butterflies have to be tough. But it's rough to be tough when your tummy is empty. Milkweed, a monarch's favorite food, is disappearing across the country. To keep monarchs fluttering, plant milkweed in your backyard. For plants and seeds, visit grownative.org.

LOOK

Grassy backyards with scattered trees are a great place to spot Missouri's state bird, the eastern bluebird. Bluebirds nest in abandoned woodpecker holes and hollow trees. If your backyard lacks these natural cavities, don't be blue. Build a [bluebird box](#). To learn how, fly over to xplormo.org/node/2937.



Eastern bluebird

Take a Closer Look

Did that rock just blink? With their brown bumpy skin, toads are masters of camouflage. By day, the chubby amphibians hide out in shady, damp areas. At night, they hop out to gobble insects. Search basement window wells and under bushes, garden plants, and dead leaves to see if a toad or two is living in your yard.



American toad



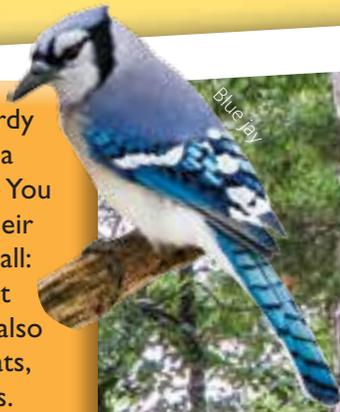
Cottontail rabbits

Heads Up!

Leave baby birds, newborn rabbits, and small fawns where you find them. They aren't abandoned. Mom is hiding nearby and won't return until you leave.

Listen

Blue jays are wordy birds, with quite a large vocabulary. You may recognize their shrieking alarm call: "Thief! Thief!" But the blabby birds also imitate hawks, cats, and other sounds. How many sounds can you hear them make?



Blue jay



Cicada

What happened here?

In summer, immature cicadas crawl out of the soil and anchor themselves to the nearest vertical surface. Then, in a scene fit for a monster movie, the tough outer shell of each cicada splits open, and a winged adult squirms out. The process happens at night, so most folks miss it, but the **crunchy shells** left behind offer evidence of the bizarre transformation.



Touch

Ruby-throated hummingbirds are tiny birds with enormous attitudes. To see how gutsy a hummer can be, hold your hand beside a hummingbird feeder as if your finger were a perch. With patience — and a steady hand — one of the bold little birds will buzz in and sit on your finger for a quick sip of nectar.



Ruby-throated hummingbird

Did You Know?

In a quest to fill their bellies with earthworms and grubs, eastern moles can tunnel twice the length of their bodies in under a minute. At that rate, you could dig the length of a football field in half an hour.



Eastern mole

POOND

Marvels

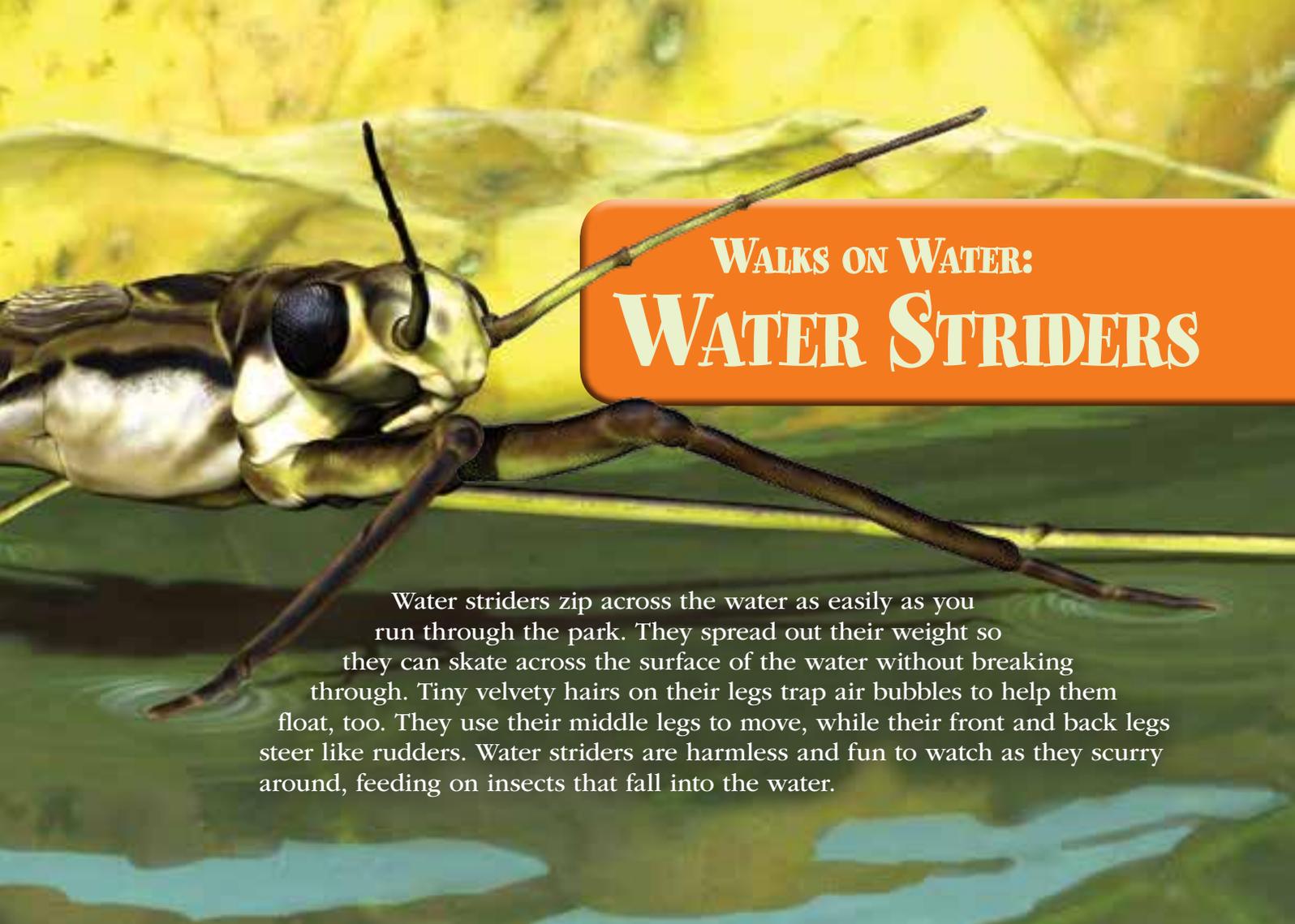
by Brett Dufur, artwork by David Besenger

Slip on your rubber boots and get close to the ground — Spond marvels abound. Get down near the muck, where you're eye to eye with a duck. At the water's edge, soon you'll see some of Missouri's most interesting creatures performing amazing feats.



One set of eyes watches for danger above water ...

... while another set of eyes peers underwater, watching for dinner.



WALKS ON WATER:
WATER STRIDERS

Water striders zip across the water as easily as you run through the park. They spread out their weight so they can skate across the surface of the water without breaking through. Tiny velvety hairs on their legs trap air bubbles to help them float, too. They use their middle legs to move, while their front and back legs steer like rudders. Water striders are harmless and fun to watch as they scurry around, feeding on insects that fall into the water.

**FAST AND FOUR-EYED:
WHIRLIGIG
BEETLES**

Around and around they go, like mini bumper cars. Surprisingly, these button-sized beetles never run into each other thanks to stubby antennae, which act as motion sensors. Look closely and you'll see they have big, round, compound eyes like a fly, except whirligigs have four!



CHANGE ARTISTS:

CENTRAL NEWTS



Central newts are true pond marvels. After hatching, central newts spend several months growing in the water with feathery gills (shown at left). By late summer, they lose their gills, form lungs, and transform into reddish-brown “efts” (shown above).



DEEP DIVERS:

PREDACEOUS DIVING BEETLES



Imagine trapping a giant air bubble against your body so you could breathe and swim underwater longer.



Newt efts spend several years living on land in wooded areas near fishless ponds. When they are larger (and more likely to survive), newts return to water, where they develop into their olive-green adult form (shown below).



Amazingly, diving beetles can do just that. They carry a breathing bubble so they can stay on the hunt and use their hairy back legs to paddle around. These fierce beetles attack small fish, tadpoles, and frogs. Then, they use sharp jaws to inject chemicals that turn the prey into gooey, slurpable shakes.

Water striders, whirligig beetles, central newts, and diving beetles are just a few of the incredible critters living in a pond near you. See how many more you can discover. Why stay dry when there are cool critters to spy?



by Matt Seek

Whether they're covered with skin, scales, feathers, or fur, tails are *tailor-*made for accomplishing some *to-tail-*ly amazing things.

Red Fox

Critters don't have warm blankets to snuggle under when the weather turns chilly. But many mammals — such as squirrels, raccoons, and this red fox — have something just as good: a bushy tail. On cold nights, foxes curl into a doughnut and wrap their furry tails around their bodies. To stay extra cozy, they tuck their noses underneath.



Photo by © Menno67 | Dreamstime.com

Photo by Kim Taylor/npl/Minden Pictures

Southern Flying Squirrel

Flying squirrels glide through the trees with the greatest of ease, but without tails, they'd surely go *splat!* By steering with their long, flat tails, the squirrelly skydivers can swoop around branches and sail safely to their destinations.



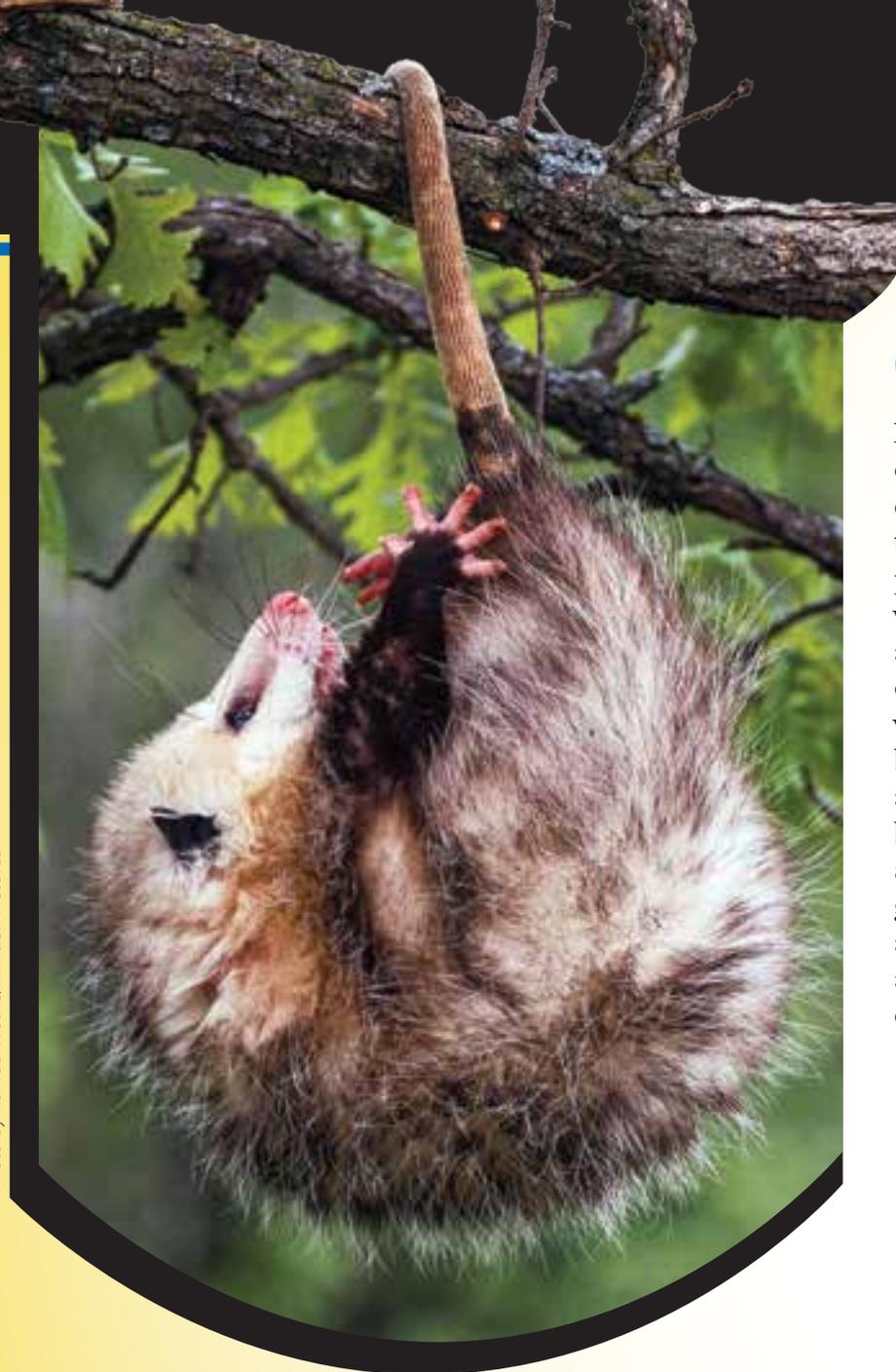
American Redstart

All birds use their tails to help steer when they fly. American redstarts have an additional use for their feathered fannies: finding lunch. As redstarts hop from branch to branch, they flash open their tail feathers to reveal bright orange spots. The spots startle insects, which flush from hiding places to be snapped up by the hungry birds.

Timber Rattlesnake

Timber rattlesnakes use their tails to tell other animals to back off. Special scales on the tip of the tail form hollow, interlocking segments. When the snake shakes its tail, the segments click together, resulting in a rattling sound. Rattlesnakes can flex their tail muscles 50 times a second. Now that's a whole lot of shaking going on!





Opossum

Need an extra hand — er, paw — to get things done? It helps to have a tail. An opossum's tail is prehensile (*pre-ben-suhl*), which means it can curl around things. While climbing, opossums wrap their tails around branches for balance, and they can even hang by their tails for several seconds. When a possum gets sleepy, it gathers a bundle of leaves in a loop of its tail and carries them to its bed.

Collared Lizard

When a collared lizard feels the need for speed, it rears up on its hind legs and dashes off, using its freakishly long tail to keep from tipping over. Careening around corners is no *problemo*, either. The lizard simply tosses its tail to the side to avoid skidding off course.





Photo by Michael Durham/Minden Pictures

Little Brown Bat

A bat uses the thin skin stretched between its tail and its back legs like a catcher's mitt. But instead of catching curveballs, bats use their tails to snag insects to eat. With their talented tails, bats can fill their bellies with bugs in an hour or two.

Ring-Necked Snake

When confronted by a predator, a ring-necked snake curls its tail into a corkscrew and whips it around like a reddish-orange bull's-eye. The tiny serpent hopes its bright tail will act as a decoy, luring a predator's sharp teeth away from the snake's delicate head.



Photo by Matt Jeppson/Shutterstock.com

Beaver

A beaver's flat, leathery tail is like a Swiss Army knife — good for many things. When chomping trees, beavers lean back on their tails for balance. When swimming, beavers steer with their tails. If a beaver spots a predator, it slaps its tail against the water to warn family members of the danger. Beavers even store fat in their tails, using them like fuel tanks when food runs short.



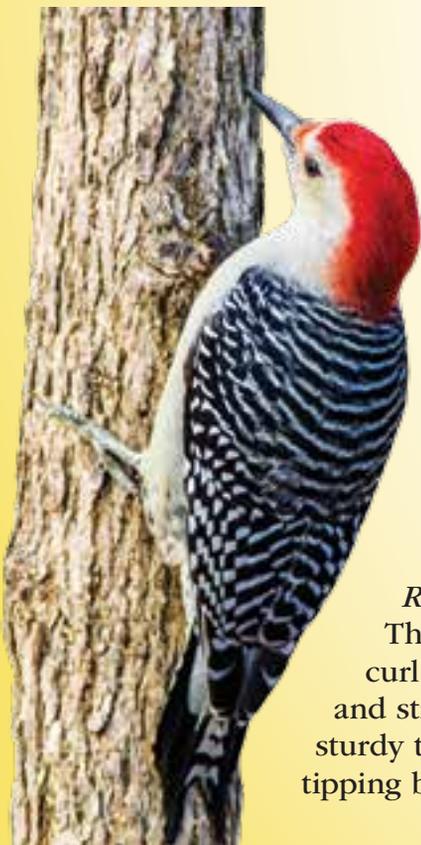
Photo by Michael Quinton/Minden Pictures



Photo by Robert R. Gaines

Fox Squirrel

When there are acorns to be gathered, you can't let a little wet weather keep you inside. That's why squirrels never leave home without their umbrellas. When it rains or snows, the tree-hugging nut-munchers flip their bushy tails over their heads to keep from getting soaked.



Red-Bellied Woodpecker

Rat-a-tat-tat, what kind of tail is that? The edges of a woodpecker's tail feathers curl inward, which makes the feathers stiff and strong. The head-banging birds prop their sturdy tails against tree trunks to keep from tipping backward while they hammer.



Photo by Pan Xunbin/Shutterstock.com



Five-Lined Skink

If a predator grabs a skink by the tail, the little lizard leaves its behind behind. By flexing special muscles, the skink snaps off its tail and squeezes blood vessels shut. While the detached tail twitches to keep the predator busy, the stumpy skink slinks to safety. It takes three or four months for the skink to grow a new tail.



Crayfish

Crayfish use their fan-shaped tails like canoe paddles. By pulling the tails quickly toward their heads, crayfish can swoosh backward at nearly 25 miles per hour.

Wild Turkey

We've now tailspun to the end of our talk. But there's one more thing tails are great for: communication. Your dog wags his tail to tell you he's happy. Your cat lashes her tail to tell you she's irritated. And male wild turkeys? They fan out their tails to tell female turkeys, "Hey good lookin', let's go on a date."



The End(s)

Illustrated by David Besenger

THIS ISSUE:

BLUE JAY VS MONARCH

Wild Child

Loud and rowdy blue jays are best known for screaming, "Jay! Jay! Jay!" These troublemakers also mimic many birdcalls, including hawks, to send other birds into a tizzy.

Snack Stasher

Blue jays have stretchy throat pouches like pelicans and can gulp down loads of insects or up to five acorns. One jay packed away 100 sunflower seeds! They stash these snacks for later.

Big, Brainy, and Bold

Jays are some of the smartest birds in the sky, with excellent memories and problem-solving skills. They form groups to attack owls and hawks.

Orange Means Whoa!

A monarch's bright wings warn birds, "Whoa!" Milkweed, the caterpillar's favorite snack, makes the butterfly bitter tasting and causes birds to upchuck. Blue jays quickly learn to avoid munching monarchs.

Rubber-Band Butterfly

That's one tough and rubbery butterfly! A bird can pinch the monarch's wing hard enough to find out it tastes gross and spit it out, and the monarch can still fly away.

AND THE WINNER IS...

STRANGE but TRUE!

YOUR GUIDE TO ALL THE
UNUSUAL, UNIQUE,
AND UNBELIEVABLE STUFF
THAT GOES ON IN NATURE



A CICADA KILLER WASP

paralyzes prey with a single sting, but moving a stunned cicada back to her burrow is quite a chore. Over and over, the wasp drags the cicada up a tree and plunges off, gliding as far as possible toward home.

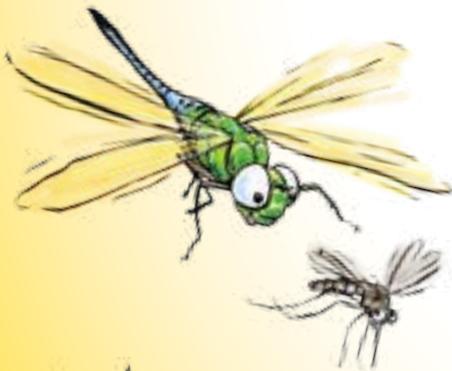
CHIGGERS

may be mighty small, but they can cause a mighty bad itch. The mites, which are related to spiders, stretch only as wide as the thickness of this page. The saliva they inject into your skin, however, can cause an itch that stretches for days.



Speed demons: GREEN DARNER DRAGONFLIES

have been clocked flying at speeds of 35 miles per hour. This makes them one of Missouri's fastest insects and one of a mosquito's worst nightmares.



A **WALLEYE'S** huge eyes are handy for hunting at night. But when the sun shines, the fish are *fin*-ished. Because their eyes are so sensitive, walleye seek deeper, darker water during the day.



To beat summer's heat, **TIMBER RATTLESNAKES** hunt mostly at night. Finding dinner in the dark is easy for the snakes. Heat-sensing organs in their snouts help them detect mice and other warm-blooded prey.

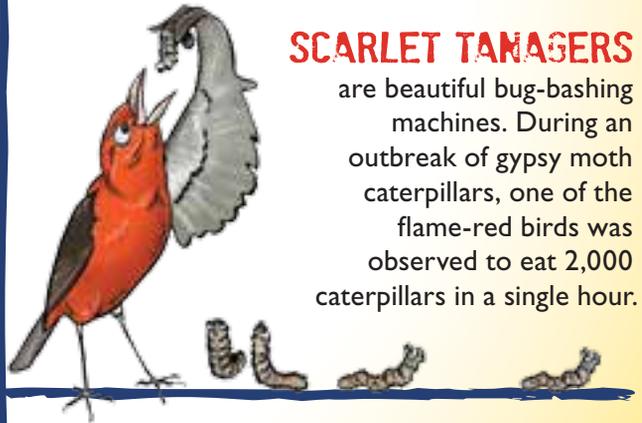


The antlers on a **WHITE-TAILED DEER** are among the fastest growing tissues found on any animal with fur. At the peak of growth, a deer may add up to 2 inches to its antlers in a day.



SCARLET TANAGERS

are beautiful bug-bashing machines. During an outbreak of gypsy moth caterpillars, one of the flame-red birds was observed to eat 2,000 caterpillars in a single hour.



Young **INDIGO BUNTINGS** learn to sing from nearby males. This results in "song neighborhoods," where bordering birds sing nearly identical songs, and birds a few hundred yards away sing something completely different.



HOW TO

Make Jug Lines for Catfish

KNOW THE RULES

You must have a fishing permit and follow a few special rules when jug fishing. Get the lowdown at mdc.mo.gov/node/3318.

There are many ways to catch the fish affectionately known as “Mr. Whiskers.” Jug lines are fun, easy, and effective.

FISHING TIPS

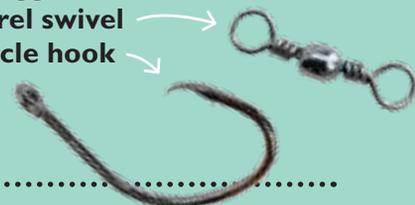
WHEN: Catfish are most active at night, so fish at dawn, dusk, and after dark. They also go into a feeding frenzy when rivers rise after a storm.

WHERE: On lakes, areas containing large rocks or flooded trees are usually catfish hot spots. Also try letting a gentle breeze drift your jugs across shallow flats. On rivers, set your jugs where shallow water drops off into the main channel or in the slow water behind wing dikes.

HOW: Catfish rely on their sense of smell and touch to find food. So bait your hook with something stinky — such as chicken livers, cut gizzard shad, or “stink bait” — or something wiggly — such as live bluegill, crayfish, or worms.

HERE'S WHAT YOU NEED:

- Empty 2-liter plastic bottle
- Fluorescent orange spray paint
- Reflective tape or duct tape
- Permanent marker
- No. 9 braided nylon line
- 2-ounce egg sinker
- 1/0 barrel swivel
- 6/0 circle hook



HERE'S WHAT YOU DO:



1 Spray paint the bottle fluorescent orange. This will make the bottle easier to spot at dawn, dusk, and at night — when catfish are hungriest. When the paint has dried, wrap tape around the bottle. Use a marker to print your name and address, or Conservation ID number, on the tape.



2 Cut off a 20-foot section of nylon line. Ask an adult to help you melt the ends of the nylon with a flame so the line won't unravel.

3 Tie a loop in one end of the line. Thread the other end of the line through the loop to make a bigger loop, like a lasso. Place the "lasso" over the neck of the bottle and cinch it down tight.

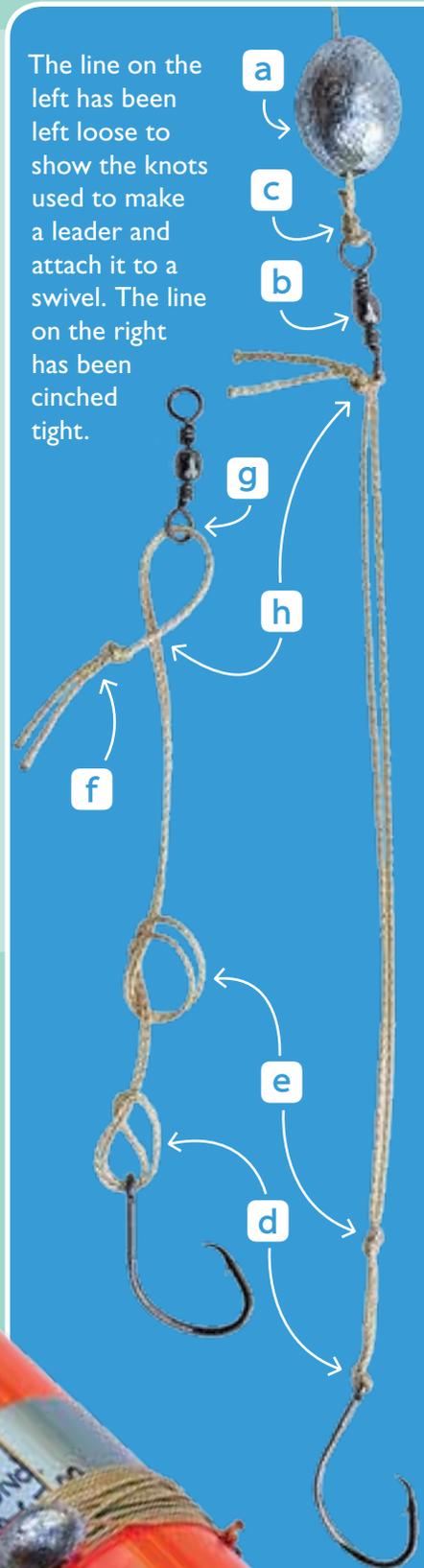
4 Thread an egg sinker **a** onto the free end of the line. Tie a swivel **b** below the sinker using a Palomar knot. **c** (Search the Internet for tying instructions.)

5 To make a leader, cut off a 20-inch section of line and melt the ends. Bring the two ends together, thread both through the eye of the hook, then tuck the ends through the loop you just made and pull tight. **d** Tie an overhand knot an inch above the hook. **e** Tie the loose ends of the line together with another overhand knot, leaving a 1-inch tail. **f**

6 Thread the hookless end of the leader through the eye of the swivel. **g** Bring the hook up through the loop you just made and pull tight. **h**

7 To transport your jug, wrap the line around the bottle and tuck the hook into the tape. **Now you're ready to fish!**

The line on the left has been left loose to show the knots used to make a leader and attach it to a swivel. The line on the right has been cinched tight.



XPLOR MOR

MOTH MADNESS

Despite having eight eyes, orb weaving spiders have poor vision. Yet with their amazing sense of touch, they can tell a wasp (a possible enemy) from a moth (lunch) by the vibrations each makes on the web.

This yellow-and-black garden spider is a picky eater. But all these moths feel the same. Use the clues to help the spider pick one moth that's just right for supper.

CLUES

- 1 Moths that have spots are too spicy.
- 2 Moths that have white wings are too salty.
- 3 Moths that have pink bodies are too sweet.
- 4 Moths that have orange stripes are too sour.



WHAT IS IT?

— FROM PAGE 3 —

Out of the 17 or so types of turtles native to the Show-Me State, the box turtle is probably the most well known. Their high-domed shells make them easy to identify. Boy box turtles generally have reddish eyes. Girls' eyes are typically brownish-yellow. Missouri's box turtles can live up to 40 or 50 years. Read more about these radical reptiles over at mdc.mo.gov/node/5395.

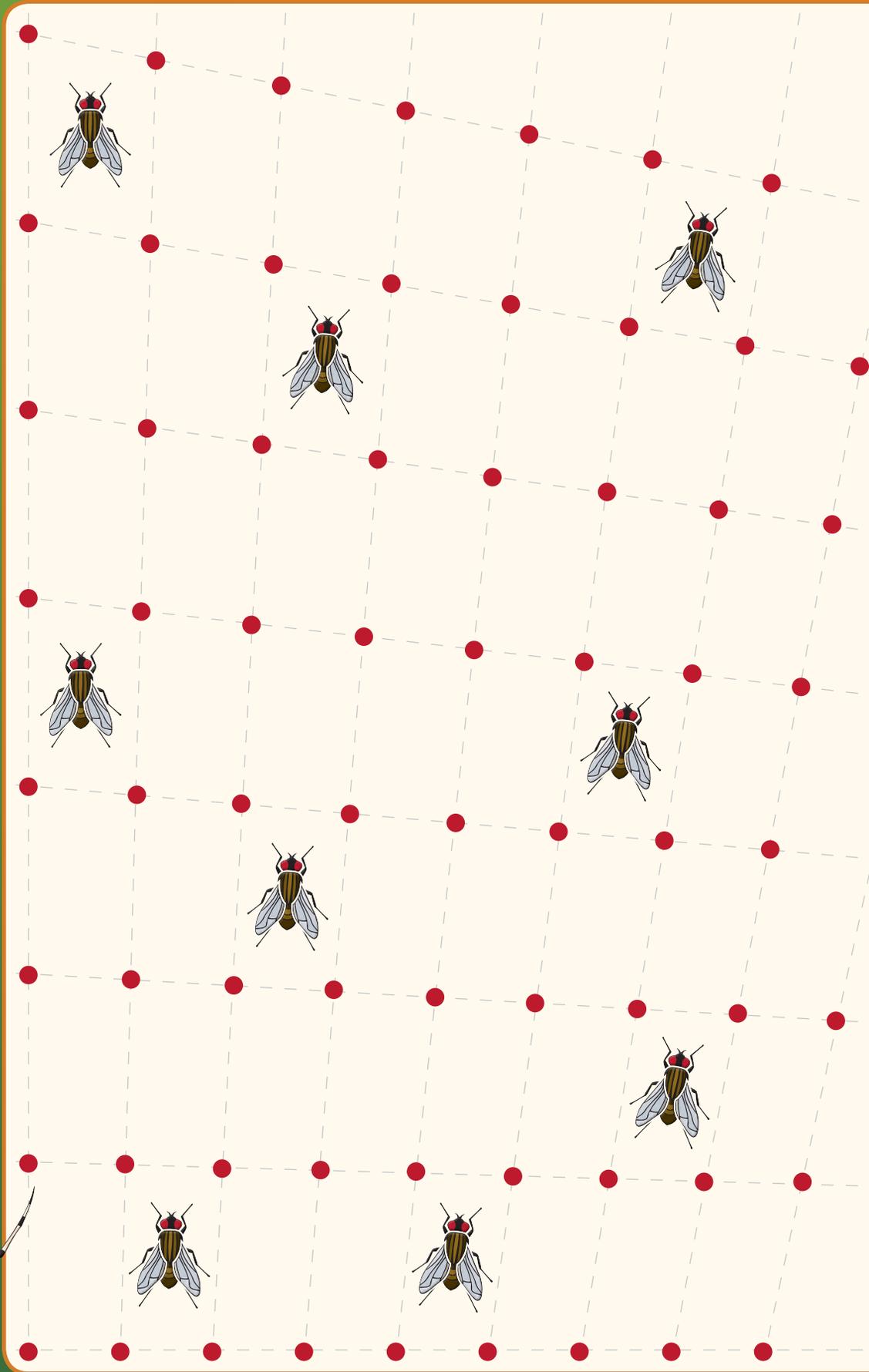
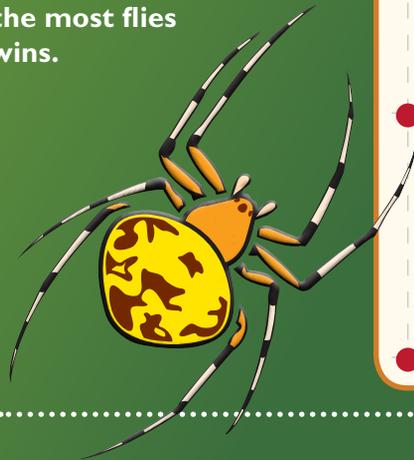


E

Oh What a Tangled Web

Some orb weaving spiders eat their webs at dawn each day, recycle the nutrients, and rebuild their webs at dusk. This spider hasn't finished its web yet. Can you help it trap some flies before they buzz away? Here's how:

- ▶ Find a buddy (or several).
- ▶ Take turns drawing a line between two dots.
- ▶ When a player completes the fourth side of a square, he or she traps the fly inside. The player writes his or her name in the square and gets to go again.
- ▶ Whoever captures the most flies wins.



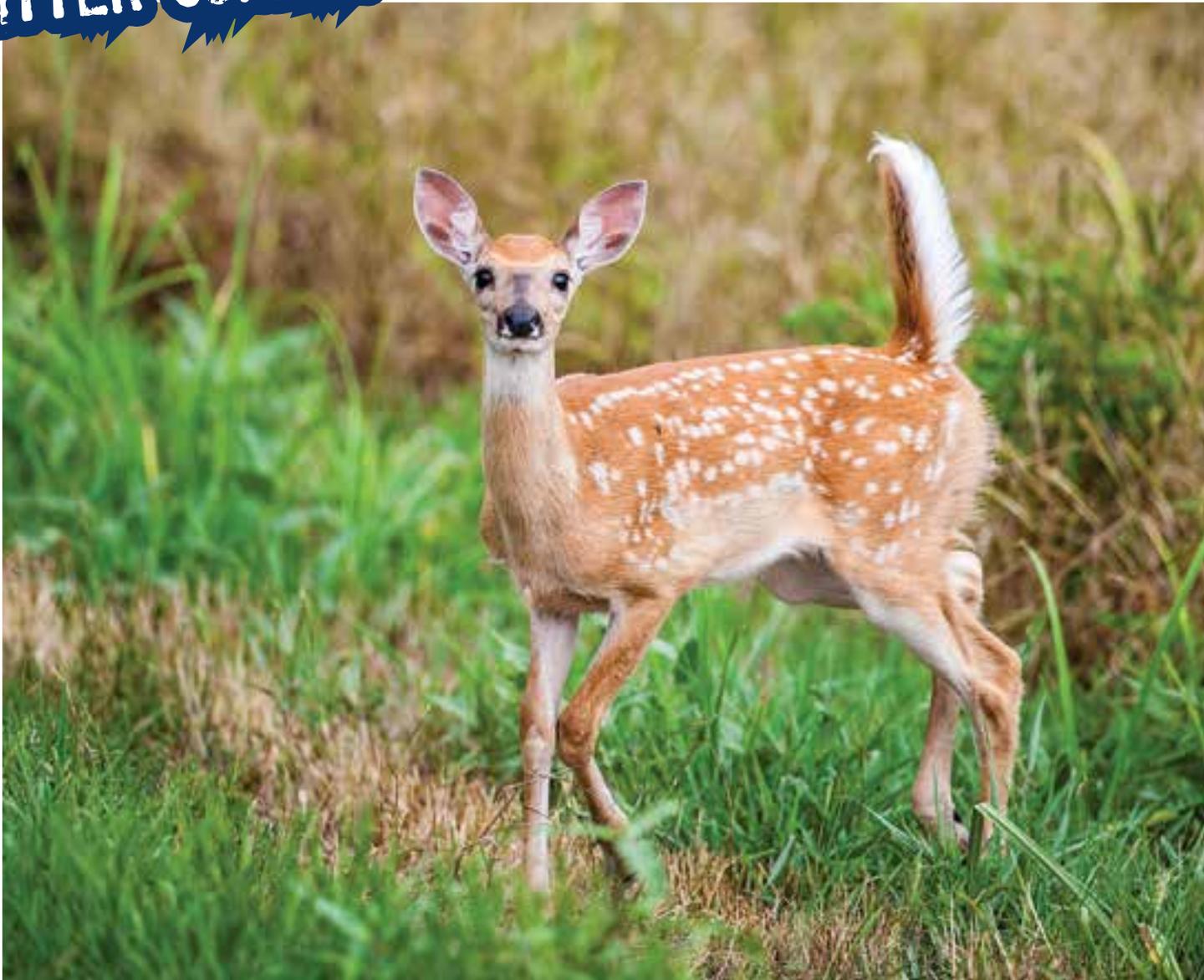
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FREE TO MISSOURI HOUSEHOLDS

CRITTER CORNER

White-Tailed Deer Fawn



Fawns, often born with a twin brother or sister, take their first wobbly steps within an hour of being born. Their white spots help them hide, and the lack of a strong scent helps protect them from predators. If you see a fawn all alone and think it's abandoned — think again — Momma deer is probably nearby feeding and will return soon, especially if she hears her fawn's call.